



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:)
)
Oleg Wasynczuk et al.) Before the Examiner
)
Serial No. 09/884,528)
) August 23, 2001
Filed June 19, 2001)
)
DISTRIBUTED SIMULATION)

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Commissioner for Patents, Washington, D.C. 20231 on
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Matthew R. Schantz
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Matthew R. Schantz
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August 23, 2001
Date of Signature

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
Washington, DC 20231

01/23/2006 HDEESS1 00000041 09884528

02 FC:1806

180.00 OP

Sir:

Pursuant to 37 C.F.R. §1.56, Applicants wish to bring to the attention of the Examiner the following patents, publications and/or other information which are also listed on the attached PTO Form 1449A (modified). Copies of cited items are enclosed in accordance with 37 C.F.R. § 1.98. The below information has not been previously submitted in this application has not been heretofore cited by an Examiner, and relates generally to the state of the art in simulation, distributed computing, and messaging.

<u>Patent No.</u>	<u>Patentee</u>	<u>Issue Date</u>
4,456,994	Segarra	06/26/1984
4,506,324	Healy	03/19/1985

<u>Patent No.</u>	<u>Patentee</u>	<u>Issue Date</u>
5,251,159	Rowson	10/05/1993
5,519,848	Wloka et al.	05/21/1996
5,640,504	Johnson, Jr.	06/17/1997
5,680,551	Martino, II	10/21/1997
5,715,184	Tyler et al.	02/03/1998
5,768,160	Kakegawa	06/16/1998
5,774,693	Hsu et al.	06/30/1998
5,784,612	Crane et al.	07/21/1998
5,793,968	Gregerson et al.	08/11/1998
5,794,005	Steinman	08/11/1998
5,801,938	Kalantery	09/01/1998
5,826,060	Santoline et al.	10/20/1998
5,845,116	Saito et al.	12/01/1998
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5,881,267	Dearth et al.	03/19/1999
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5,983,265	Martino, II	11/09/1999
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6,106,297	Pollak et al.	08/22/2000
6,134,514	Liu et al.	10/17/2000
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L. Birta, O. Abou-Rabia; *Parallel Block Predictor-corrector Methods for Ode's*; IEEE Trans. Computers, C-36:3 (March, 1987)

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M.L. Crow, M. Illie; *The Parallel Implementation of the Waveform Relaxation Method for Transient Stability Simulations*; IEEE Trans. Power Systems; 5:3:pp 922-932 (August, 1990)

H. Mori, K. Takeda; *Parallel Simulated Annealing for Power System Decomposition*; IEEE Trans. Power Systems; 9:2:pp 785-795 (May, 1994)

K. K. Fung, et al.; *Concurrent Simulation of Decouple Power Electronics Circuits*; Euro. Power Elec.; 18-23 (Sept. 1993)

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N. huu Cong; *A Parallel DIRK Method for Stiff Initial-value Problems*; J. Comp. and Appl. Math., 54:pp 121-127 (1994)

P.J. van der Houwen et al.; *Parallel Iteration Across the Steps of High-Order Runge-Kutta Methods for Nonstiff Initial Value Problems*; J. of Comp. and Appl. Math., 60:pp 309-329 (1995)

W.A. van der Veen; *Step-Parallel Algorithms for Stiff Initial Value Problems*; Comp. in Math. Appl.; 30:11:pp 9-23 (1995)

J.J.B. de Swart, J.G. Blom; *Experiences with Sparce Matrix Solvers in Parallel ODE Software*; Comp. In Math. Appl.; 31:9:pp43-55 (1996)

I.M. Llorente, et al.; *Some Aspects About the Stability of Scientific Applications on Parallel Architectures*; Parallel Comp. 22:pp 1169-1195 (1996)

P. Amodio, L. Brugnano; *A Note on the Efficient Implementation of Implicit Methods for ODEs*; J. of Comp. and Appl. Math.; 87:pp 1-9 (1997)

L.G. Birta and L. Yang; *Some $P(EC)^mE$ Methods for Parallel Solution of ODEs*; Math and Comp. in Sim.; 43:pp 171-182 (1997)

I. Martin, F. Tirado; *Relationships Between Efficiency and Execution Time of Full Multigrid Methods on Parallel Computers*; IEEE Trans. Parallel and Dis. Sys.; 8:6:pp 562-573 (June, 1997)

E. Messina, et al.; *Parallel Interactive Linear Solvers for Multistep Runge-Kutta Methods*; J. of Comp. and Appl. Math.; 85:pp 145-167 (1997)

J. Huang, et al.; *A Model and Design of a Fully Distributed Computing Environment for Virtual Reality*; IEEE, pp 160-168 (March, 1997)

Z. Yao, et al.; *Power System Simulation by an Improved WRM*; IEEE Int'l. Conf. On Control Appl.; pp 80-585 (October 5-7, 1997)

S. Veseli; *Multidimensional Integration in a Heterogeneous Network Environment*; Comp. Physics Comm.; 108:pp 9-19 (1998)

N. Adbel-Jabbar, et al.; *A Partially Decentralized State Observer and Its Parallel*

Computer Implementation; Ind. Eng. And Chem. Res.; 37:pp 2741-2760 (1998)

H. Vin; *Supporting Next-Generation Distributed Applications*; IEEE Project Reports, pp 78-83 (July-Sept., 1998)

E. deDoncker, et al.; *Large-Scale Parallel Numerical Integration*; J. of Comp. and Appl. Math. 112:pp 29-44 (1999)

P.J. van der Houwen and E. Messina; *Parallel Adams Methods*; J. of Comp. and Appl. Math.; 101:pp 153-165 (1999)

N. Abdel-Jabbar, et al.; *A Multi-rate Parallel-modular Algorithm for Dynamic Process Simulation Using Distributed Memory Multicomputers*; Comp. and Chem. Eng.; 23:pp 733-761 (1999)

M. Pruetim, et al.; *An Environment to Develop Parallel Code for Solving Partial Differential Equation-based Problems*; J. of Sys. Arch.; 45:pp 543-554 (1999)

T. Kato and T. Kataoka; *Circuit Analysis by a New Multirate Method*; Elec. Eng. In Japan; 126:4:pp 55-62 (1999)

L. Pollini and M. Innocenti; *A Synthetic Environment for Dynamic Systems Control and Distributed Simulation*; IEEE Con. Sys. Mag.; pp 49-61 (April, 2000)

H. Zhang; *A Note on Windowing for the Waveform Relaxation*

T. Sterling, et al.; *Achieving a Balanced Low-cost Architecture for Mass Storage Management Through Multiple Fast Ethernet Channels on the Beowulf Parallel Workstation*

T. Sterling, et al.; *Beowulf: A Parallel Workstation for Scientific Computation*

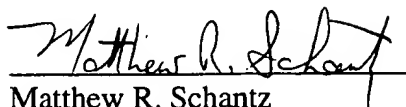
C. Reschke, et al.; *A Design Study of Alternative Network Topologies for the Beowulf Parallel Workstation*

T. Sterling, et al.; *Communication Overhead for Space Science Applications on the Beowulf Parallel Workstation*

This Statement is being submitted within three months of the filing date of the above-referenced application, and prior to the mailing of any Office Action on the merits. It is thus believed that no fee is required for consideration of the submitted items. Should any fee be

required, however, please charge such fee to Deposit Account No. 23-3030, but not to include any payment of issue fees.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Matthew R. Schantz", is written over a horizontal line.

Matthew R. Schantz

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INFORMATION DISCLOSURE
CITATION

(Use several sheets if necessary)

ATTY. DOCKET NO.

16410-108

SERIAL NO.

09/884,528

APPLICANT

WASYNCZUK, Oleg, et al.

FILING DATE

June 19, 2001

GROUP

Page 1 of 4

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	4,456,994	06/26/1984	Segarra	371	16	
	4,506,324	03/19/1985	Healy	364	200	
	5,251,159	10/05/1993	Rowson	364	578	
	5,519,848	05/21/1996	Wloka et al.	395	500	
	5,640,504	06/17/1997	Johnson, Jr.	395	182.02	
	5,680,551	10/21/1997	Martino, II	395	200.15	
	5,715,184	02/03/1998	Tyler et al.	364	578	
	5,768,160	06/16/1998	Kakegawa	364	578	
	5,774,693	06/30/1998	Hsu et al.	395	500	
	5,784,612	07/21/1998	Crane et al.	395	653	
	5,793,968	08/11/1998	Gregerson et al.	395	200.39	
	5,794,005	08/11/1998	Steinman	395	500	
	5,801,938	09/01/1998	Kalantery	364	131	
	5,826,060	10/20/1998	Santoline et al.	395	500	
	5,845,116	12/01/1998	Saito et al.	395	673	
	5,850,345	12/15/1998	Son	364	578	
	5,862,366	01/19/1999	Schmidt et al.	395	500	
	5,881,267	03/09/1999	Dearth et al.	395	500	
	5,909,542	06/01/1999	Paquette et al.	395	200.33	
	5,910,903	06/08/1999	Feinberg et al.	364	578	

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION (Use several sheets if necessary) Page 3 of 4		Atty. Docket No. 16410-108	Serial No. 09/884,528
		Applicant WASYNCZUK, Oleg, et al.	
		Filing Date June 19, 2001	Group
Examiner Initial		PUBLICATION	
		L. Birta, O. Abou-Rabia; <i>Parallel Block Predictor-Corrector Methods for Ode's</i> ; IEEE Trans. Computers, C-36:3 (March, 1987)	
		O. Abou-Rabia, L.G. Birta, M. Chen; <i>A Comparative Evaluation of the BPC and PPC Methods for the Parallel Solution of Ode's</i> ; Trans. Soc. for Computer Sim.; 6:4:pp 265-290	
		M.L. Crow, M. Illie; <i>The Parallel Implementation of the Waveform Relaxation Method for Transient Stability Simulations</i> ; IEEE Trans. Power Systems; 5:3:pp 922-932 (August, 1990)	
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		K. K. Fung, et al.; <i>Concurrent Simulation of Decouple Power Electronics Circuits</i> Euro. Power Elec.; 18-23 (Sept. 1993)	
		L.G. Birta, M. Yang; <i>Some Stepsize Adjustment Procedures for Parallel ODE Solvers</i> ; Trans. Soc. for Computer Sim., 12:4:pp 303-324	
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		J.J.B. de Swart, J.G. Blom; <i>Experiences with Sparse Matrix Solvers in Parallel ODE Software</i> ; Comp. In Math. Appl.; 31:9:pp43-55 (1996)	
		I.M. Llorente, et al.; <i>Some Aspects About the Stability of Scientific Applications on Parallel Architectures</i> ; Parallel Comp. 22:pp 1169-1195 (1996)	
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		H. Vin; <i>Supporting Next-Generation Distributed Applications</i> ; IEEE Project Reports, pp 78-83 (July-Sept., 1998)	
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. patent application of:

Oleg Wasynczuk, et al.

Serial No. 09/884,528

Filed June 19, 2001

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) Ayal I. Sharon

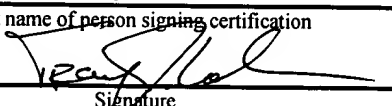
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INFORMATION DISCLOSURE STATEMENT

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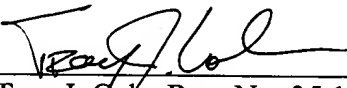
Pursuant to the duty of disclosure in accordance with 37 C.F.R. §1.56, Applicant wishes to bring to the attention of the Examiner the items of information listed on the enclosed Information Disclosure Citation Form. This information has not been previously submitted in this application, and has not been heretofore cited previously by the Examiner. Copies of all non-patent literature are enclosed in accordance with 37 CFR 1.98(a).

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The filing of this Information Disclosure Statement shall not be construed as an admission that the information cited is, or is considered to be, material to patentability as defined in §1.56(b).

This Statement is being submitted after the mailing date of a final Office Action or Notice of Allowance and prior to payment of the issue fee, and thus a Request for Continued Examination (RCE) and fee of 37 CFR §1.17(e) have been filed. Should any additional fees be deemed necessary, the Commissioner is authorized to charge such fees to Deposit Account No. 23-3030, but is not to include payment of issue fees.

Respectfully submitted,

By 
Troy J. Cole, Reg. No. 35,102
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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	09/884,528
				Filing Date	June 19, 2001
				First Named Inventor	Oleg Wasynczuk et al.
				Group Art Unit	2123
Examiner Name	Ayal I. Sharon				
Sheet	1	of	1	Attorney Docket No.	31122-8

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s) publisher city and/or country where published	T ⁶
		Dommel, <i>Digital Computer Solution of Electromagnetic Transients in Single- and Multiphase Networks</i> , IEEE Transactions on Power Apparatus and Systems, Vol. PAS-88, No. 4, April 1969	<input type="checkbox"/>
		Masuzawa, Fukui, and Smith, <i>Cardiovascular simulation Using a Multiple Modeling Method on a Digital Computer--Simulation of Interaction Between the Cardiovascular System and Angiotensin II</i> , Little , Brown and Company, 1992	<input type="checkbox"/>
		Quinn, <i>Parallel Computing: Theory and Practice</i> , McGraw-Hill Series in Computer Science, 1994	<input type="checkbox"/>
		Burrage, <i>Parallel and Sequential Methods for Ordinary Differential Equations</i> , Oxford Press, 1995	<input type="checkbox"/>
		Ferscha, <i>Parallel and Distributed Simulation of Discrete Event Systems</i> , Handbook of Parallel and Distributed Computer, McGraw-Hill, 1995	<input type="checkbox"/>
		MPI-2: <i>Extensions to the Message-Passing Interface</i> , Message Passing Interface Forum, University of Tennessee, Knoxville, Tennessee, 1995, 1996, 1997	<input type="checkbox"/>
		Xavier and Iyengar, <i>Introduction to Parallel Algorithms</i> , Wiley Series on parallel and Distributed Computing, 1998	<input type="checkbox"/>

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